SAFETY DATA SHEET

1. Identification

Product identifier **CALSOFT® LAS-99**

Other means of identification

Product Code 400000

Recommended use Industrial Intermediate

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Pilot Chemical Company

Address 2744 East Kemper Road
Sharonville, OH 45241
United States

Telephone (513) 326-0600 (8 AM to 5 PM Eastern)
1-800-707-4568

E-mail sdsinfo@pilotchemical.com

Emergency phone number CHEMTREC International: 1-703-527-3887

CHEMTREC USA: 1-800-424-9300

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, oral	Category 4
Skin corrosion/irritation	Category 1C
Serious eye damage/eye irritation	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 1
Hazardous to the aquatic environment, long-term hazard	Category 3

Hazard(s) not otherwise classified (HNOC) Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Benzenesulfonic Acid, C10-16-alkyl Derivs.		68584-22-5	90 - 100
Other components below reportable levels			< 1

Byproducts

Chemical name	CAS number	%
Sulfuric Acid	7664-93-9	0 - < 1.5

Impurities

Chemical name	CAS number	%
Benzene, C10-16-alkyl Derivs.	68648-87-3	0 - < 1.5
Sulphur Dioxide	7446-09-5	0< 0.1

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments Occupational Exposure Limits for impurities are listed in Section 8. Additional compounds which may be formed during processing are listed in Section 8.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Byproducts	Type	Value
Sulfuric Acid (CAS 7664-93-9)	PEL	1 mg/m3
Impurities	**Type**	**Value**
Sulphur Dioxide (CAS 7446-09-5)	PEL	13 mg/m3
		5 ppm

US. ACGIH Threshold Limit Values

Byproducts	Type	Value	Form
Sulfuric Acid (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.
Impurities	**Type**	**Value**	
Sulphur Dioxide (CAS 7446-09-5)	STEL	0.25 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Byproducts	Type	Value
Sulfuric Acid (CAS 7664-93-9)	TWA	1 mg/m3
Impurities	**Type**	**Value**
Sulphur Dioxide (CAS 7446-09-5)	STEL	13 mg/m3
		5 ppm
	TWA	5 mg/m3
		2 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Viscous.
Physical state	Liquid.
Form	Liquid.
Color	Brown.
Odor	Sulphurous.
Odor threshold	Not available.
pH	< 2
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Cleveland Open Cup , None to decomposition
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Soluble; may gel
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	1260 cP @ 25 deg C estimated
Other information	
Density	8.81 lb/gal
Molecular weight	320
Specific gravity	1.06

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Components	Species	Test Results
Benzenesulfonic Acid, C10-16-alkyl Derivs. (CAS 68584-22-5)		
Acute		
Dermal		
LC50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	1470 mg/kg

Byproducts	Species	Test Results
Sulfuric Acid (CAS 7664-93-9)		
Acute		
Inhalation		
LC50	Rat	375 mg/m3, 4 h
Oral		
LD50	Rat	2140 mg/kg

Impurities	Species	Test Results
Sulphur Dioxide (CAS 7446-09-5)		
Acute		
Inhalation		
LC50	Hamster	50 ppm, 4 h
Benzene, C10-16-alkyl Derivs. (CAS 68648-87-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	IARC has concluded that "occupational exposure to strong inorganic mists containing sulfuric acid is carcinogenic for humans (Group 1)".

IARC Monographs. Overall Evaluation of Carcinogenicity

Sulfuric Acid (CAS 7664-93-9)	1 Carcinogenic to humans.
Sulphur Dioxide (CAS 7446-09-5)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Sulfuric Acid (CAS 7664-93-9) Known To Be Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Components			Test Results
Benzenesulfonic Acid, C10-16-alkyl Derivs. (CAS 68584-22-5)			
Aquatic			
Acute			
Algae	EC50	Algae	0.91 mg/l, 96 h
Crustacea	EC50	Daphnia	7.6 mg/l, 48 h
Fish	LC50	Bluegill (Lepomis macrochirus)	1.67 mg/l, 96 h
Chronic			
Algae	NOEC	Algae	3.1 mg/l, 15 d
Crustacea	NOEC	Daphnia	< 3.4 mg/l, 28 d
Fish	NOEC	Fish	0.25 mg/l, 90 d

Byproducts			Test Results
Sulfuric Acid (CAS 7664-93-9)			
Aquatic			
Acute			
Algae	EC50	Algae	> 100 mg/l, 72 h
Crustacea	EC50	Daphnia	> 100 mg/l, 48 h
Fish	LC50	Bluegill (Lepomis macrochirus)	16 - 28 mg/l, 96 h
Chronic			
Crustacea	NOEC	Daphnia	0.15 mg/l, 35 d
Fish	NOEC	Fish	0.025 mg/l, 65 d

Impurities			Test Results
Benzene, C10-16-alkyl Derivs. (CAS 68648-87-3)			
Aquatic			
Acute			
Algae	EC50	Algae	> 0.1 mg/l, 72 h
Crustacea	EC50	Daphnia	0.009 mg/l, 48 h
Fish	LC50	Fathead minnow (Pimephales promelas)	> 0.041 mg/l, 96 h
Chronic			
Fish	NOEC	Fish	> 0.0578 mg/l

* Estimates for product may be based on additional component data not shown.

Persistence and degradability This product is expected to be readily biodegradable.

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2586
UN proper shipping name	Aryl sulfonic acids, liquid
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, T4, TP1
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241

DOT NON-BULK

NON-BULK

UN number	UN2586
UN proper shipping name	Aryl sulfonic acids, liquid
Transport hazard class(es)	
Class	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN2586
UN proper shipping name	Arylsulphonic acids, liquid
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN2586
UN proper shipping name	ARYLSULPHONIC ACIDS, LIQUID
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.

EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT; DOT Non-Bulk packaging type

IATA; IMDG

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sulfuric Acid (CAS 7664-93-9)	Listed.

SARA 304 Emergency release notification

Sulfuric Acid (CAS 7664-93-9)	1000 LBS
Sulphur Dioxide (CAS 7446-09-5)	500 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Sulfuric Acid	7664-93-9	1000	1000 lbs		
Sulphur Dioxide	7446-09-5	500	500 lbs		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sulfuric Acid	7664-93-9	0 - < 1.5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Sulfuric Acid (CAS 7664-93-9)
Sulphur Dioxide (CAS 7446-09-5)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Sulfuric Acid (CAS 7664-93-9)	6552

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Sulfuric Acid (CAS 7664-93-9)	20 %WV

DEA Exempt Chemical Mixtures Code Number

Sulfuric Acid (CAS 7664-93-9)	6552

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sulfuric Acid (CAS 7664-93-9)
Sulphur Dioxide (CAS 7446-09-5)

US. Massachusetts RTK - Substance List

Sulfuric Acid (CAS 7664-93-9)
Sulphur Dioxide (CAS 7446-09-5)

US. New Jersey Worker and Community Right-to-Know Act

Sulfuric Acid (CAS 7664-93-9)
Sulphur Dioxide (CAS 7446-09-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Sulfuric Acid (CAS 7664-93-9)
Sulphur Dioxide (CAS 7446-09-5)

US. Rhode Island RTK

Sulfuric Acid (CAS 7664-93-9)
Sulphur Dioxide (CAS 7446-09-5)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	08-27-2014
Revision date	04-01-2015
Version #	03

NFPA ratings	Health: 3 Flammability: 1 Instability: 0
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision Information	Composition / Information on Ingredients: Disclosure Overrides Physical & Chemical Properties: Multiple Properties Transport Information: Material Transportation Information Regulatory Information: United States Material Attributes & Uses; Experimental Data: Experimental Data REACH: Registration Substance